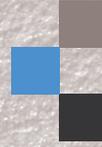
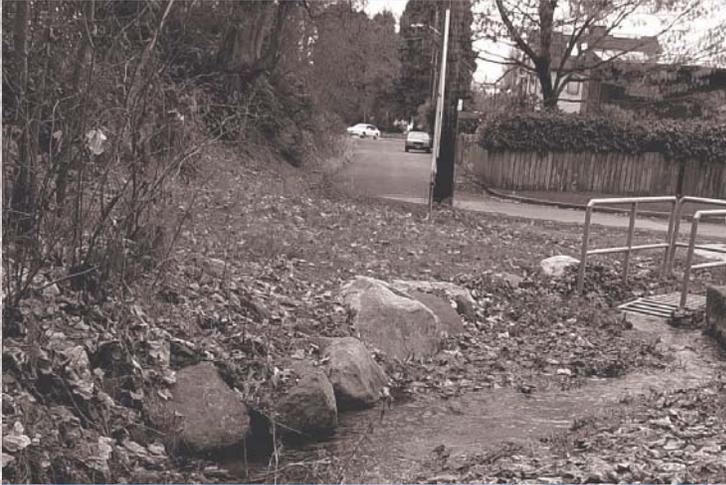
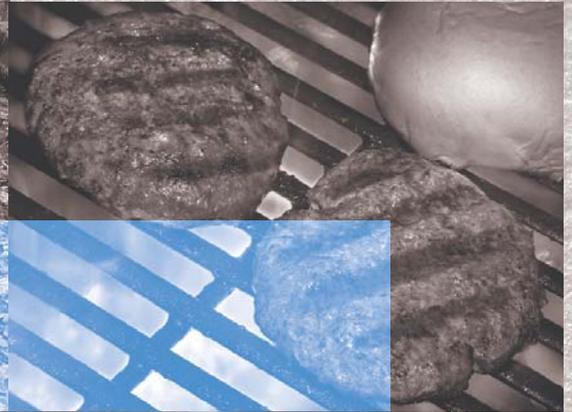


# Environmental Health Services



2003

Annual Report





## Preface



I am pleased to present the Environmental Health Services (EHS) Division 2003 Annual Report. Environmental Health is a division of Public Health - Seattle & King County, the tenth largest public health department in the United States. This annual report presents an excellent summary of major Environmental Health programs and services and an overview of the EHS budget. The report provides the opportunity to relay the extent of EH services to policy makers, agency partners, and community members.

Public Health's governing body is the King County Board of Health, made up of eleven elected officials from the county and incorporated cities, and three appointed health professionals. The Board of Health assures local implementation of state environmental health statutes, approves local environmental health rules and regulations, and establishes fee schedules for licenses and permits, among other duties. The EHS division is multi-faceted, funded by collected fees, grants and contracts, and state and local taxes.

I see several major themes in this year's report. First, it clearly documents a strong effort to bring critical environmental health services to all county residents. Second, it makes clear that our community and individual health is impacted by our environment in multiple, often invisible ways. Without the services provided by the Environmental Health Division, the quality of our land, water, air and food would be undermined, in turn negatively influencing our health from cradle to old age.

This year's Annual Report conveys the excellence of the environmental health services that are provided here in Seattle and King County and the exceptional talent and commitment of the environmental health investigators, management, and administrative support staff who deliver them. The EHS Division 2003 Annual Report is available online through the Public Health - Seattle & King County website located at the following address:  
[www.metrokc.gov/health](http://www.metrokc.gov/health).

Please enjoy reading about these important and fundamental health services provided by Public Health Seattle-King County.



Alonzo Plough, PhD, MPH  
Director and Health Officer  
Public Health - Seattle & King County



## Welcome!

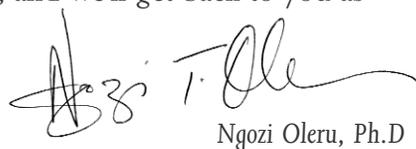
Welcome to Environmental Health Services' 2003 Annual Report. According to the World Health Organization, health is defined as a state of physical, mental and social well being, and not merely the absence of disease or injury. Environmental health refers to all factors in the environment that determine or influence human health, and the environmental strategies we develop to prevent disease and promote health.

Environmental Health Services continually strives to improve community and individual health by carrying out existing programs while embracing and creating new initiatives and partnerships. Our staff of 180 serves over 1.7 million people in Seattle and King County with regulated services and non-regulated programs. Some of our regulated services include health oversight of septic systems, food establishments, landfills, plumbing, pools, and drinking water. Non-regulated programs include guidance for households and small businesses on issues such as hazardous waste management, vector nuisances, indoor environments, water quality, and home food safety. In addition, we collaborate with many government agencies and community-based organizations to protect and promote the health of King County residents.

As you read through this report, you'll get a greater understanding of how each of our programs touches your life on a daily basis. You will also read comments from some of our many excellent professionals who deliver Environmental Health Services every day through education, training, compliance monitoring, enforcement, and partnerships.

In 2003, we began an initiative to involve Environmental Health in the land use planning process, because the quality of land, food, water, and air are largely determined by how we design, construct, and use our environment. The built environment has been shown to be a factor in high rates of obesity and related chronic disease like diabetes, cardiovascular disease, and asthma. It is also a contributor to injury, accidents, and to economic and social injustice. By bringing increased awareness of the health impacts of the built environment to the table, our hope is that we will influence the planning and development decision-making process to benefit our many communities' long-term health.

Thank you for taking time to read about Environmental Health Services. For more information on our programs, please click on Environmental Health at our website at [www.metrokc.gov/health](http://www.metrokc.gov/health). Should this report generate questions or comments please email us through the website, and we'll get back to you as quickly as possible.



Ngozi Oleru, Ph.D

Director of Environmental Health Services



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# LAND

The land we live, work, and play on must be healthy if we are to be healthy. Environmental Health Services promotes the health of the people and communities of King County by protecting the land, through management of toxic materials, household and business hazardous waste, rodents and other pests, illegal drug labs, solid waste (garbage), and more.

**Hazardous waste:** Small businesses such as dry cleaners and autobody shops produce hazardous waste as part of their work processes, all of which needs to be identified, handled, and disposed of correctly. Households can also be burdened with hazardous waste like old paints, pesticides, and fertilizers. We help individuals and businesses identify the toxicity of their chemical wastes and determine where to safely and soundly dispose of them. We achieve this by partnering with the Local Hazardous Waste Management Program, a collaborative effort that also includes Seattle Public Utilities, King County Solid Waste, King County Water and Land Resources, and suburban cities. This partnership ensures the proper management of hazardous wastes produced by households and in small quantities by businesses.

**Illegal drug labs:** Law enforcement calls on Environmental Health to assess the scene at illegal drug labs. Our team posts signs at the scene indicating that the property is “potentially contaminated.” We conduct a visual survey of the myriad of chemicals and equipment used during the manufacturing process, all of which may have contaminated the walls, floors, ceilings, and other surfaces in and around a drug lab. Synthesizing information from police, laboratory, and other agencies, our team determines whether the property is contaminated or not. The owner of a contaminated property is then required to have it cleaned up. We guide the cleanup process and approve the property for re-occupancy.

**IMEX:** The Industrial Materials Exchange (IMEX) links individuals and businesses wanting to dispose of industrial materials with individuals and businesses that can use the materials. Both parties save money by avoiding both disposal and purchasing costs, and we all benefit by keeping excess materials out of the landfill. Since the inception of IMEX in 1990, businesses have saved a total of \$25,824,000 through 2645 exchanges of 8310 tons of materials.

**Garbage & rodents:** Environmental Health’s Solid Waste & Vector/Nuisance program reviews plans for waste-handling facilities, and monitors and inspects solid waste treatment sites, transfer stations, and landfill disposal sites to ensure that state and local solid waste codes are followed. We also investigate unlawful dumping complaints. Rodents and improper garbage disposal go hand-in-hand. If solid waste is not managed correctly, rodents will move right in.

Rodents destroy property, contaminate food supplies, and carry disease. They are one of the oldest public health problems known to humans. Rodents can be found where there is food and shelter for them, even in our neighborhoods. Our team responds to hundreds of rodent complaints each year and advises residents on how to remove food and habitat in order to make it difficult for rodents to survive.



**“ We’re all playing a part to complete the puzzle of personal and community health. Realistically, more than just preventing disease, clean and healthy environments promote healthy communities and healthy lives. ”**

*Teri Barclay, Health & Environmental Investigator,  
Solid Waste & Vector/Nuisance Program, 20 years*





**Roadside monitoring:** Our staff monitors soil and surface water for the three herbicides sprayed on King County roadsides in order to minimize any potential health risk. Through this sampling program, we were able to demonstrate that an 80% reduction in herbicide application still effectively manages vegetation, and is not harmful to health.

**Site hazard assessment:** Environmental Health assesses sites in King County that have been identified as contaminated by the Washington Department of Ecology. Our job is to determine the extent and severity of the contamination so the sites may be properly placed on Ecology's priority cleanup list.

**“Environmental Health is about giving people tools to make informed choices about their health.”**

*Olivia Chamberlain,  
Health & Environmental Investigator,  
Local Hazardous Waste Program, 13 years*

**Tacoma Smelter Plume:** The Tacoma Smelter Plume team tests soils for lead and arsenic and educates residents about soil contamination. Some King County soil was contaminated by air-borne arsenic and lead from the Tacoma copper smelter, which operated for almost 100 years before closing in the mid 1980s. The outreach team teaches parents, children, and childcare providers steps to reduce their exposure to contaminated soil, focusing on south King County, where the contamination is worse. In 2004, we plan to sample soils to define the "footprint" of contamination in King County, extending our sampling reach to north and east King County.



**Program Highlight  
Duwamish Superfund Area**

The Duwamish River area has long been one of South Seattle's industrial cores, yet almost 5,000 people live in the river communities of South Park and Georgetown. Many local and regional people use the river for recreation. Along with the Washington State Department of Health, we educated residents about the health dangers of eating contaminated bottom fish

from the Duwamish. We also partnered with other environmental agencies to evaluate local businesses' storage and disposal practices in an effort to stop the discharge of hazardous waste into drains that empty into the river. Visits to businesses began in March of 2003 and should be completed by late 2004.

**Quick Facts**

- Conducted 58 initial site hazard investigations and assessments
- Investigated 499 complaints on unlawful dumping
- Investigated 821 rodent complaints
- Responded to 19,220 household and 3,327 business inquiries regarding hazardous waste
- Responded to 111 illegal drug labs
- Advised over 1,000 dental offices on their hazardous materials, including mercury
- Saved businesses \$1,045,000 through 133 tons of IMEX exchanges
- Distributed 45,000 nail brushes, posters, and brochures in eight languages to remind our community how to reduce exposure to contaminated soil

# FOOD

Foodborne illness is a serious public health threat. According to the Centers for Disease Control and Prevention (CDC), each year in the United States 76 million people suffer from vomiting and diarrhea caused by foodborne illness, 325,000 people are hospitalized, and 5,000 die from eating food contaminated with disease-causing organisms. Environmental Health Services' goal is to reduce the risk of foodborne illness through education and strong, community-supported regulation.

**Inspection Program:** Directed by the King County Board of Health food code, Environmental Health serves almost 10,000 permanent and temporary food service operations by providing food worker training, facility inspections, and annual educational visits. Food service establishment inspection reports are posted on our website ([www.metrokc.gov/health/foodsfty](http://www.metrokc.gov/health/foodsfty)), where in 2003, 50,000 visitors each month accessed restaurant inspection histories and home food safety information.

**“ Air, water, and food are so basic to human life yet some of the time we take a healthy environment for granted. I think Environmental Health should be on the top of everyone’s list of what is important.”**

*Willie Allen, Coordinator – Food Worker Card Training, Food & Facility Protection Program, 12 years*

A unique service of the food protection program, one of only two in the nation, requires Environmental Health to oversee the retail handling of meat, poultry, rabbit, aquatic foods, and fish. Inspectors ensure that these products sold in King County stores are handled according to safe food standards and properly labeled with packaging date, sell date, product name, and ingredients.

**FDA Standardization:** In 2005, Washington will adopt a new food code based on the Food and Drug Administration (FDA) 2001 Model Food Code. In preparation, Environmental Health was the first local health district in Washington to have a Certified Training Officer (CTO) to institute inspection standardization, focusing on consistent application of laws, regulations, policies, and procedures. The CTO trains each inspector to consistently apply the FDA food safety inspection standards for evaluating the risks of foodborne illness from the food handling process.

**“ I love educating people about safe food handling... I love it as much today as I did when I started 32 years ago.”**

*Perry Lee, Health & Environmental Investigator, Food & Facility Protection Program, 32 years*

**Food Worker Training Partnership:** Food workers in Washington need a Food Worker Card that is provided after taking and passing a food safety class and test. More than 55,000 cards are issued in King County each year. In order to facilitate training these tens of thousands of workers, we partnered with the Washington Restaurant Association Education Foundation. Through this partnership, professionals certified in food safety practices teach the Food Worker Card class and proctor the test. The classes may be held at the food establishment, offering an excellent environment for food workers to immediately apply safe food practices in the kitchen where they work. More than 20,000 food workers received their cards through this program in 2003. For the 35,000 other food workers, Environmental Health offers weekly training classes where materials and tests are offered in seven different languages.



## Program Highlight Audiovisual Training and Public Information

Environmental Health recognizes the effectiveness of audio and visual training. “Food Safety is in Your Hands,” a 7 minute video on hand washing and no bare-hand contact with ready-to-eat food, was produced with a FDA grant. The video, translated into Spanish, Cantonese, Mandarin, Korean, Vietnamese, and Russian, is used in food safety training locally, statewide, and nationally. The video can also be seen on the web at [www.metrokc.gov/health/foodsfty](http://www.metrokc.gov/health/foodsfty).

**“I’m service oriented, and Environmental Health is about providing a service, problem solving, and making a difference.”**

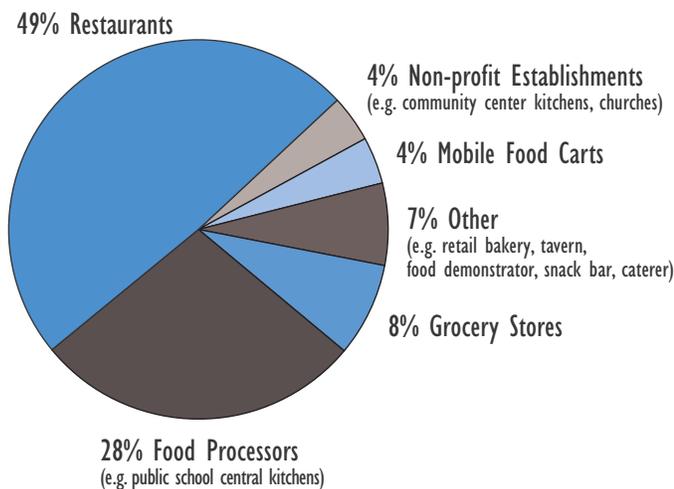
*Jane Bjorkman, Public Health Administrative Services Supervisor, Food & Facility Protection Program, 30 years*

Our Civic Television show, “Spotlight on Environmental Health,” featured two food safety shows in 2003. “Food Safety at Home” focused on home kitchens, because more than 50% of all food-borne illnesses are associated with home food preparation. We demonstrated safe food practices from grocery shopping to meal preparation. “Food Safety at Parties” was produced especially for the holiday season. The program showed how to safely bring food to a party, serve food on a buffet, and take home leftovers.

### Quick Facts

- Permitted 9,629 food service establishments
- Provided 21,271 inspection and educational visits
- Conducted 86 foodborne illness investigations
- Trained 1/3 of the food protection program staff on inspection standardization
- Trained 35,000 food workers on food safety
- Reviewed 807 kitchen designs for food service establishments
- Responded to 996 public concerns about restaurant food safety
- Produced and distributed 10,000 newsletters to restaurants

### Types of Permitted Food Facilities



# WATER

Clean water, without excess bacteria or chemicals, is absolutely essential to public health, but water contamination can happen in many ways. Incorrectly managed septic systems can contaminate surface and ground water supplies. Sewage overflows and spills or wildlife waste can contaminate swimming beaches. Plumbing systems installed improperly may result in cross connections allowing toilet water to flow into drinking water pipes. Stagnant water in bird-baths, buckets, discarded tires, and other containers can harbor the larvae of the mosquitoes that spread West Nile virus. Inadequately maintained spas and pools can spread disease or create the conditions for accidental injury or death. Protecting our water resources is an essential public health service in which Environmental Health plays a critical role.

**Drinking water:** Much of King County water is received from either the Tolt or Cedar River watersheds or large community wells. However, thousands of county homeowners rely on the 1600 small “Group B” wells for their drinking water. We promote healthy wells by assuring their proper planning, design, and location prior to construction, and consult with well owners to ensure wells remain safe from contaminants. In 2003, we worked on a special project with the Washington Department of Health to complete surveys of “Group A” public water systems (15 or more connections). We surveyed 64 of the “Group A” systems, provided educational material on water system operation, conducted bacteria sampling and conservation, and prepared water system operation plans.

**Onsite sewage:** Over 115,000 households in King County have an onsite septic system. Onsite septic systems are miniature sewage treatment plants, usually serving one household. The system must function correctly to keep sewage from contaminating ground and surface water and soil. New septic systems are more complex and difficult to install than in years past. As rural and suburban areas are developed, land with soil ideal for onsite septic systems is less available, which complicates design and installation. We approve designs and work with homeowners and professionals to install and maintain systems correctly to prevent failures and to ensure that systems have long lives.

**Plumbing:** Seasoned plumbers review all new plumbing construction plans and inspect installations before the water can be turned on. When gas is piped into a building, plumbers inspect to ensure that the gas connections are properly installed. Plumbers also visit temporary food establishments at fairs and festivals to ensure that water and gas connections are correctly and safely installed.

**Recreation:** Our inspectors check all public pools and spas for proper water disinfection and correct water temperature, ensure that gates and other safety equipment are properly working, and verify that safety signs are clearly posted. We also post beach contamination warning signs when tests show unsafe levels of bacteria, often caused by waterfowl waste. Additionally, we distribute newsletters and other educational materials to owners and operators providing reminders and tips to avoid common health and safety problems.



**“As a plumbing inspector, I get to meet people from all walks of life – rich and poor, everyone needs plumbing. And the fine craftspeople with incredible designs and installations – when a huge skyscraper goes on line and everything works – that’s very satisfying.”**

*Clyde Fane, Senior Plumbing Inspector  
Plumbing and Gas Piping Program, 14 years  
(30 years in the plumbing business)*



## Program Highlight

### West Nile virus

By 2003, West Nile virus had spread across the continental United States. Spread by mosquitoes that lay their eggs in water, West Nile virus sickened almost 10,000 people in 2003 and killed over 200. Fortunately, West Nile virus did not arrive in King County in 2003, but we prepared by educating residents to remove artificial mosquito breeding habitat and coordinated the surveillance and control activities of several King County agencies and almost 40 local municipal jurisdictions.

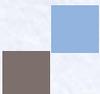
Since crows are an early indicator of West Nile virus, we tracked and mapped dead bird reports and submitted samples for testing. We also produced a video and public service announcements, translated prevention materials into seven languages for print and radio, and held press events and dozens of media interviews.

### Quick Facts

- Provided 9,556 plumbing and 6,596 gas piping permits
- Received 1,486 onsite septic system site applications
- Approved 718 as-built designs for onsite septic systems
- Received approximately 400 operation and maintenance reports from licensed maintainers
- Sent out 893 information packets to homeowners with onsite septic systems
- Permitted 2,073 pool and spa facilities
- Inspected over 50 decommissioned wells
- Approved approximately 12 new “Group B” water systems
- Responded to 2,534 calls related to mosquitoes and dead birds and tested 186 birds for West Nile virus

**“My science education is put to use everyday. Geology helps me determine soil types. Geography helps me understand the topography and to read site maps. Biology is necessary to understand the use of anaerobic and aerobic bacteria in the system, and I use chemistry to determine the level of treatment needed for the sewage.”**

*Jeff Ketchel, Health & Environment Investigator,  
Onsite Sewage Program, 10 years*



# AIR

Clean indoor air is imperative to our health. While regulatory focus is primarily on outdoor air, studies show that the air indoors, where we spend most of our time, is often more of a problem for our health. Mold, pesticides, chemicals, airborne particles, smoke from cigarettes and fireplaces, household cleaners, lead dust, and noise all create potential hazards in indoor environments. Poor indoor air quality can be a trigger for asthma, which is one of the most common reasons for children to need hospital care.

**Indoor Environment:** Environmental Health Services responds to concerns about indoor environments by working to keep the air safe and breathable, identifying issues, determining probable causes, and helping to alleviate poor conditions. In order to promote healthier environments, we partner with many other agencies to address air pollution concerns, work with schools to prevent air quality problems, and respond to calls from home renters and owners.

An example of a project addressing indoor environment issues was the locally-funded Community Environmental Health Initiative. As part of this project, we conducted 36 home assessments and collected samples from 19 of the homes for analysis of allergens, various chemicals, and metals. Hypo-allergenic bedding covers, green cleaning kits, walk-off mats, and high filter vacuum cleaners were supplied where necessary. During this project, we also identified a neighborhood with a high risk for lead exposure, and with the help of GIS-computer mapping sent letters and educational materials to 180 occupants and owners informing them of the risk and offering assessment services.

**Noise:** Although noise is often an under-appreciated health issue, evidence shows that the stress generated from noise is hazardous to health and can affect pre-existing health conditions. Noise is usually defined as a sound you don't want to hear, over which you have no control. Environmental Health oversees noise control for those construction projects (e.g. highway, new building construction) in King County where an environmental impact has been recognized. Our job is to review, approve, and/or recommend noise management plans so that noise is minimized during and after construction.

## Program Highlight Tools for Schools

In 2003, we worked with 31 schools to implement the Environmental Protection Agency's Indoor Air Quality (IAQ) Tools for Schools program. This program gives schools the ability to improve indoor air quality and create a healthier environment for children and staff. Collaboration involves an IAQ assessment and analysis at individual schools leading to each school creating its own IAQ program. Every school room is evaluated for carbon dioxide and other chemicals that may trigger asthma or other respiratory problems, so that steps can be taken to maximize indoor air quality.

**“Environmental Health protects people’s health and the environment – it’s a perfect occupation for someone who wants to give.”**

*Larry Brown, Health & Environmental Investigator  
Local Hazardous Waste Program, 16 years*



## Quick Facts

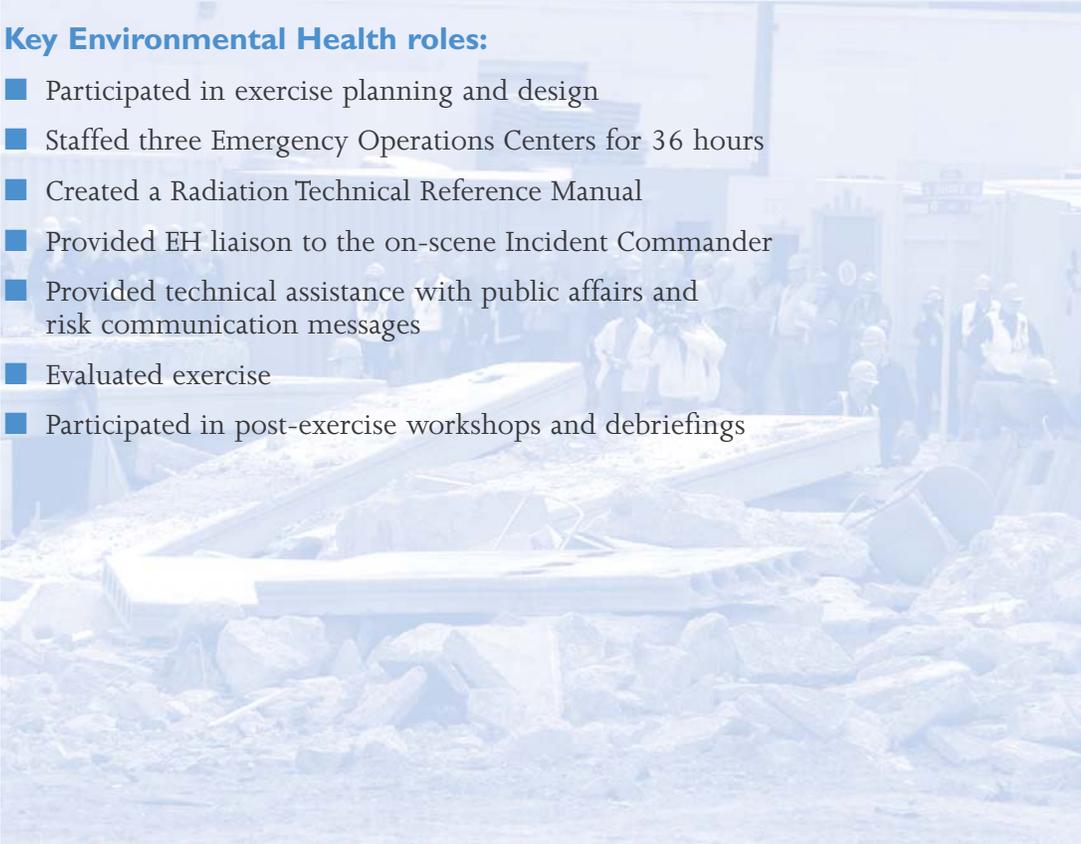
- Responded to 156 indoor air inquiries
- Provided 20 noise consultations
- Made six major presentations on indoor air quality
- Provided 19 residential inspections for the Seattle Asthma Project, a program assisting families with asthmatic children
- Coordinated remediation, evaluation and rehabilitation work for 80 homes as part of a HUD Better Home for Asthma grant
- Partnered with Puget Sound Clean Air Agency to produce a “Spotlight on Environmental Health” civic TV show on wood smoke and health

## DIVISION HIGHLIGHT

### Emergency Preparedness

In 2003, Public Health – Seattle & King County participated in the two day Top Officials 2 (TOPOFF 2) full scale terrorism exercise conducted by the Department of Homeland Security. The exercise involved radiological, biological, and cyber-terrorism disaster scenarios. Along with federal, state, and other local agencies, Environmental Health exercised by responding to a “dirty bomb” in Seattle. Environmental Health played a key role in planning, “playing,” and evaluating the exercise. The experience was useful in testing and developing new emergency response plans.

### Key Environmental Health roles:

- Participated in exercise planning and design
  - Staffed three Emergency Operations Centers for 36 hours
  - Created a Radiation Technical Reference Manual
  - Provided EH liaison to the on-scene Incident Commander
  - Provided technical assistance with public affairs and risk communication messages
  - Evaluated exercise
  - Participated in post-exercise workshops and debriefings
- 

# BUDGET

The annual Environmental Health Services budget increased from \$15,204,146 in 2000 to \$16,620,053 in 2003. This represented an average annual increase of approximately 3%. Environmental Health's portion of the Public Health budget has declined. Environmental Health constituted 14.5% of the Public Health Budget in 1993, 9.5% in 2000, and only 8.2% in 2003.

Permitting and other fees make up the largest revenue source in the Division's budget. In 2003, fees represented 84% of Environmental Health's revenues, an increase of 10% from the previous year. Only 5.4% of Environmental Health's 2003 revenue was derived from taxes (Washington State, King County, and City of Seattle). Over the past three years the amount of tax support within Environmental Health has declined at an average rate of 17% per year. In most cases the declining tax support coincided with fee increases. In some cases tax supported services were eliminated.

The following chart compares the change in revenue sources for 1993, 2000, and 2003.

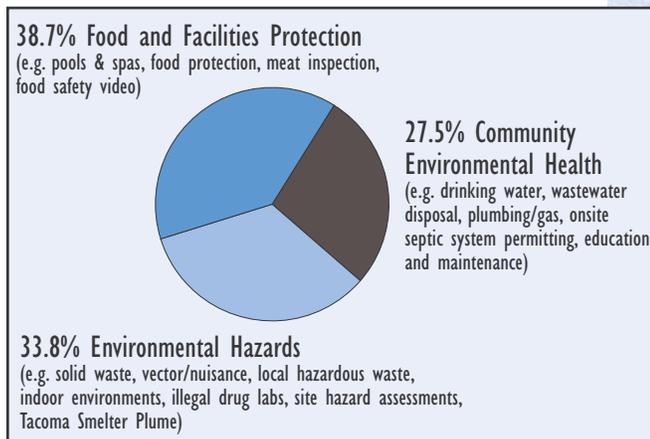


Environmental Health's revenues support the work of three major sections, which include the various programs described in this report. These sections are Food and Facilities Protection, Environmental Hazards, and Community Environmental Health.

In 2003, the Food and Facilities Protection section comprised 38.7% of Environmental Health's expenditures. This section has experienced continuous service increases in response to the continuing growth in the numbers of permitted food establishments, pools, and spas.

The Environmental Hazards section comprised 33.8% of the Division's 2003 expenditures. In response to emerging issues, such as West Nile virus, arsenic in soils, and illegal drug labs, expenditures have increased by 15% since 2000. Much of the increase has been funded from special grants and contracts with the State.

The Community Environmental Health section comprised 27.5% of the Division's 2003 expenditures. This section expenditure level has declined by 11% since 2000. Part of the decline is the result of slow-downs in construction and land development in recent years. Another part of the decline is the loss of tax support that was used for public education and investigation services for programs in this section.



# Environmental Health Sites and Contact Information

## Eastgate Environmental Health

14350 SE Eastgate Way  
Bellevue, WA 98007  
Phone: 206-296-4920

**Services:** Wastewater, Drinking Water, and Plumbing/Gas Piping Programs

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## Northshore Environmental Health

10808 NE 145th St  
Bothell, WA 98011  
Phone: 206-296-9787

**Services:** Food and Facilities Protection Programs

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## Alder Square Environmental Health

1404 Central Ave. S, #101  
Kent, WA 98032  
Phone: 206-296-4708

**Services:** Food and Facilities Protection Programs

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## Downtown Environmental Health

2124 4th Ave, 4th Floor  
Seattle, WA 98121  
Phone: 206-296-4632

**Services:** Food and Facilities Protection Programs

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## Environmental Health Administration

999 3rd Ave., Suite 700  
Seattle, WA 98104  
Phone: 206-205-4394

**Services:** Environmental hazards

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## Environmental Health Seattle Plumbing and Gas Piping

700 5th Avenue, 20th floor  
Seattle, WA 98104  
Phone: 206-386-4039

**Services:** plumbing and gas piping permits and inspections